THE CLAIMS DEFINING THE INVENTION ARE AS FOLLOWS:

1. A method of producing a depth map for use in the conversion of 2D images into stereoscopic images including the steps of:

identifying at least one object within a 2D image;

allocating said or each object with an identifying tag;

allocating said or each object with a depth tag; and

determining and defining an outline for each or said object.

2. A method as claimed in claim 1 wherein the object outline is defined by a series of co-ordinates, curves and/or geometric shapes.

3. A method as claimed in any preceding claim wherein said identifying tag is a unique numerical number.

4. A method as claimed in ~~any preceding claim~~ Claim 1 or Claim 2 wherein identifying said at least one object includes the step of comparing said 2D image with a library of generic scenes.

5. A method as claimed in ~~any preceding claim~~ Claim 1 or Claim 2 wherein the step of determining the outline further includes tracing the object pixel by pixel.

6. A method as claimed in ~~any one of claims 1 to 4~~ Claim 1 or Claim 2 wherein the step of determining the outline further includes using straight lines to approximate the outline of the object.

7. A method as claimed in ~~any one of claims 1 to 4~~ Claim 1 or Claim 2 wherein the step of determining the outline further includes using curve approximations to approximate the outline of the object.

8. A method as claimed in ~~any one of claims 1 to 4~~ Claim 1 or Claim 2 wherein the step of determining the outline further includes using bezier curves to approximate the

outline of the object.

9. A method as claimed in ~~any one of claims 1 to 4~~ Claim 1 or Claim 2 wherein the step of determining the outline further includes comparing the object with a library of curves and/or generic or geometric shapes to approximate the outline.

10. A method as claimed in claim 9 further including scaling the curve and/or generic or geometric shape to best fit the object.

11. A method as claimed in ~~any preceding claim~~ Claim 1 wherein the depth tag includes a colour code.

12. A method as claimed in claim 11 wherein white represents objects relatively close to the viewer, and black indicates objects relatively distant from the viewer.

13. A method as claimed in ~~any one of claims 1 to 10~~ Claim 1 wherein said depth tag is a numerical value.

14. A method as claimed in claim 13 wherein said numerical value ranges from 0 to 255.

15. A method as claimed in ~~any preceding claim~~ Claim 1 wherein said at least one object is further divided into a plurality of segments, each segment being assigned a depth tag.

16. A method as claimed in claim 15 wherein the variation in depth is defined by a ramp function.

17. A method as claimed in claim 16 wherein said ramp function is a linear or radial ramp.

18. A method as claimed in ~~any preceding claim~~ Claim 1 further including tracking the or each object on successive frames of the image, and determining and assigning depth tags for the object in each respective frame.

19. A method as claimed in ~~any preceding claim~~ Claim 1 further including adding a texture bump map to the or each object.

20. A method as claimed in claim 19 wherein said texture bump map is defined by breaking the object into a plurality of components and assigning each component a separate depth tag.

21. A method as claimed in claim 19 wherein said texture bump map is defined by the luminance values of individual components of the object.

22. A method as claimed in claim 19 wherein said texture bump map is defined by the chrominance, saturation, colour grouping, reflections, shadows, focus and/or sharpness of individual components of the object.

23. A method as claimed in ~~any preceding claim~~ Claim 1 further including producing greyscale images of 80x60x8 bit resolution of each 2D image.

24. A method of producing a depth map for use in the conversion of 2D images in a video sequence into stereoscopic images including the steps of:

identifying and numbering each frame of the video sequence;

identifying at least one object within the video sequence;

allocating each object with an identifying tag;

dividing the video sequence into a plurality of partial sequences;

transmitting the partial sequences to a plurality of operators, each operator determining and defining an outline for each object in the partial sequence previously allocated said identifying tag;

receiving said partial sequences from said plurality of operators;

collating said partial sequences to reform the video sequence; and

allocating each object with a depth tag;

25. A method as claimed in claim 24 further including the step of adding security measures to the sequence prior to said video sequence being divided into a plurality of partial sequences.

26. A method as claimed in claim 25 wherein said security measures include removing audio from and/or modifying the colours of the video sequence.

27. A method of encoding a depth map for use in the conversion of 2D images into stereoscopic images including :

allocating an object identifier to an object;

allocating said object with a depth tag; and

defining the object outline.

28. A method as claimed in claim 27 wherein said object outline is defined by a series of x,y coordinates, each x,y coordinate being separated by a curve.

29. A method as claimed in claim 28 wherein each said curve is stored in a library and allocated a unique number.

30. A method as claimed in claim 28 or claim 29 wherein said object outline also includes data on the orientation of each curve.

31. A method as claimed in ~~any one of claims 28 to 30~~ Claim 28 or Claim 29 wherein each said curve is a bezier curve.

32. A method as claimed in claim 27 wherein said object outline is defined by at least one geometric shape.

33. A method as claimed in claim 32 wherein said at least one geometric shape is defined by the form of the shape and the parameters of the shape.

34. A method as claimed in ~~any one of claims 27 to 33~~ claim 27 wherein the encoding of the depth tag of said object includes:

allocating a type of depth; and

allocating a depth for the object;

35. A method as claimed in claim 34 wherein the type of depth includes single value, linear ramp, or radial ramp.

36. A method of transmitting 2D images and depth map data for viewing on a stereoscopic viewing system including:

embedding the depth map data in the Vertical Blanking Interval of an analogue television signal.

37. A method of transmitting 2D images and depth map data for viewing on a stereoscopic viewing system including:

embedding the depth map data in the MPEG of a digital television signal.

38. A method of transmitting 2D images and depth map data for viewing on a stereoscopic viewing system including:

embedding the depth map data in the VOB file of a DVD.

39. A method of decoding depth map data including:

receiving 2D images and depth map data corresponding to said 2D images;

determining an object identified in the depth map data;

determining the corresponding depth for said object;

shading said object dependent on the depth; and

processing the image to form a distortion grid wherein the amount of distortion is dependent on the depth.

40. A method as claimed in claim 39 further including:

blurring the depth map prior to forming the distortion grid to thereby provide a smoother transition between objects.

41. A method of decoding depth map data including:

producing an undistorted mesh from a plurality of polygons;

applying the depth map to said mesh, wherein elevation of polygons within the mesh is dependent on depth recorded in the depth map;

converting the elevation of the polygons into translational displacements to thereby create a distorted mesh; and

applying the distorted mesh to a 2D image corresponding to the depth map data.

42. A decoder for decoding depth map data including a library of depth maps, wherein incoming data is compared with said library and wherein if said data does not match a depth map in said library of depth maps, the decoder processes said incoming data using the method as claimed in claim 41.